

BEST AVAILABLE COPY



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/057,502 04/09/98 SAND

, E 009683-329

021839 MMC1/1004
BURNS DOANE SWECKER & MATHIS L.L.P.
POST OFFICE BOX 1404
ALEXANDRIA VA 22313-1404

EXAMINER

HALLACHER, C

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/04/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/057,502	SANO ET AL.	
	Examiner Craig A Hallacher	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - a) All b) Some * c) None of the CERTIFIED copies of the priority documents have been:
 1. received.
 2. received in Application No. (Series Code / Serial Number) _____ .
 3. received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- | | |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 20) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in JP 9-092252 on 4/10/97. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 9-12 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kneezel et al. (5,745,131) in view of Hirata et al. (5,146,236).

Kneezel et al. discloses (Figures 8, 10A-AA an 11) an ink jet printer ejecting a plurality of kinds of ink droplets of different sizes depending upon data to be printed, comprising: a smoother for performing a smoothing process using a dot smaller than a dot forming an image; and a controller for controlling the smoother to control the location of a smaller dot. However, Kneezel et al. does not disclose that the controller controls the smoother to print the smaller dots with a pitch smaller than the normal dots or to control the position of the smaller dot by controlling the timing of the voltage signal controlled. Hirata et al. discloses (Figures 11B,C and 12) an ink jet printer in which smaller dots are printed with a smaller pitch than larger dots and that the position of dots is controlled by the timing of the voltage signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the smaller dots at a smaller pitch, as taught by Hirata et al., in the ink jet printer of Kneezel et al., in order to print a half tone image. With regards to the method claims, using the structure above provides the claimed method.

5. Claims 5-8, 13-16 and 20-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Kneezel et al. in view of Hirata et al. as applied to claims 1, 9 and 17 above, and further in view of Saruta (5,980,015).

Kneezel as modified discloses everything claimed except for controlling the position of the smaller dot by changing a speed of the dot by changing the degree in the signal voltage. Saruta discloses (Figures 6 and 7a,b) an ink jet printer in which the position of a small dot is controlled by changing the speed of the dot by changing the degree in the signal voltage. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

Art Unit: 2853

invention to provide speed control of the smaller dot, as taught by Saruta, in the ink jet printer of Kneezel as modified, in order to print an image with different size ink drops without reducing printing speed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A Hallacher whose telephone number is (703)308-0516. The examiner can normally be reached on M-F (8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, Jr. can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3432 for regular communications and (703)305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



Craig A Hallacher
Examiner
Art Unit 2853

C.A.H.
October 2, 2000